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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TRIEU, THAI BA

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/529,831	Applicant(s) BOLZ, MARTIN-PETER	
	Examiner Thai-Ba Trieu	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-9,11-16 and 18-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9, 11-15, 18 and 19 is/are rejected.
- 7) ☒ Claim(s) 16 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the Amendment filed on December 17, 2007.

Claims 1-2, 6, and 21 were amended; claims 3, 10 and 17 were cancelled.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-6, 7-9, 11-15, and 18-19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Woollenweber et al. (Patent Number 6,129,524), in view of Prevond et al. (Patent Number FR 2 815 671 A1).

Regarding claims 1-2, 4-6, 8-9, 11-15, and 18-19, Woollenweber discloses a device to compress combustion air (10), for a combustion engine of a motor vehicle (See Column 1, lines 5-11), with a housing (20), with at least one compressor impeller (16) arranged in a compression area (Not Numbered) of a first housing part (Not Numbered), which is arranged in the flow direction between an air inlet (40) and an air outlet (33) of the housing (20), as well as with an electric motor (12) arranged in a second housing part (Not numbered) of the housing (20) to operate the compressor impeller (16),

wherein a flow channel (33) running in the circumferential direction of the first housing part (20) and connecting the compression area (Not Numbered) with the air outlet (33) surrounds the electric motor (12) at least partially in the axial direction;

wherein the flow channel (33) is at least partially defined by the second housing part (Not Numbered) so that air flows circumferentially from the compression area to the air outlet; and

characterized in that the electronic components (22), in particular the electronic components of the motor electronics of the driving electric motor (12) are mounted on the second housing part (Not Numbered) such that the second housing part conducts from the electronic components (22) to the flow channel so that the electric components (22) are cooled predominantly via the flow channel (33) (See Figures 4 and 5);

wherein the flow channel (33) is connected with the electric motor (12);

wherein the second housing part (Not numbered) is comprised at least partially of a heat conducting material (See Column 5, lines 17-36);

wherein the second housing part (Not Numbered) features a diffuser ring (Not Numbered), which forms a portion of the limitation of the flow channel (33) and is thermally coupled to the electric motor (12);

wherein the flow channel (33) is arranged at the high-pressure side of the compressor impeller (16);

wherein the flow channel (33) is arranged on the side of the compressor impeller (16) facing away from the air inlet (40);

wherein the flow channel (33) is connectable with the air inlet (40) of the housing (20) by means via a bypass channel (46) bypassing the compressor impeller (16);

wherein means (48) are provided to close the bypass channel (62) with an activated electric motor (12) (See Figure 5);

wherein the means (48) are self-setting (See Figure 5);

wherein the means (48) are air driven (See Figure 5).

However, Woollenweber fails to disclose the flow channel having a spiral shape, a cross-section of the flow channel widening in the circumferential direction of the housing; and having an essentially elliptical shape.

Prevond teaches that it is conventional in the turbocharger art having electrical assistance, to utilize the flow channel (Not numbered) having a spiral shape and featuring a cross-section that widens in the circumferential direction of the housing (Not numbered); and the flow channel (Not numbered) featuring an essentially elliptical cross-section, whereby the large semi-axis of the ellipse runs essentially parallel to the drive shaft (16) of the electric motor (20, 21) (See Figures 3-4, Page 10, lines 8-29).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the flow channel having a spiral shape; a cross-section of the flow channel widening in the circumferential direction of the housing; and having an essentially elliptical shape, as taught by Prevond, to improve the efficiency of the Woollenweber device, since the use thereof would have controlled the compressed air

into the housing of the turbocharger and protected the mechanical degradations caused by the excess of the temperature.

Regarding claim 7, the modified Woollenweber discloses the invention as recited above; however, fails to disclose the flow channel being embodied as a single piece with the second housing part.

Note that the claimed phrases the flow channel being embodied as a single piece with the second housing part is treated as product by process limitation; that is, the flow channel being embodied as a single piece with the second housing part by casting or by connecting, clamping etc.... As set forth in MPEP 2113, product by process claims are NOT limited to manipulations of the recited steps, only to the structure implied by the steps. Once a product appearing to be substantially the same or similar is found, a 35 USC 102/103 rejection may be made and the burden is shifted to applicant to show an obvious difference. See MPEP 2113.

Allowable Subject Matter

Claim 21 is allowed.

Claims 16 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed on December 17, 2007 have been fully considered but they are not persuasive. Therefore, claims 1-2, 4-6, 8-9, 11-16, and 18-21 are pending.

In response to the applicant's arguments set forth on page 6, applicant argues that:

"Woollenweber et al. teaches away from the construction of Prevond et al. Figure 1 of Woollenweber et al., identified as "Prior Art," illustrates a cross-section that widens in the circumferential direction, similar to that depicted by Prevond et al. Woollenweber et al. deliberately taught away from a cross-section of the flow channel widening in the circumferential direction of the housing. Woollenweber et al. discloses that because structures like that illustrated in Figure 1 of Woollenweber et al. have compressor motor losses concentrated in, and that must be dissipated from, the smaller compressor housing, the compressor motor becomes more temperature sensitive. By "temperature sensitive," Woollenweber et al. means a motor or electrical component whose reliability may be at risk, or whose performance may be degraded by the inability to dissipate heat generated during its operation (Col. 1, Lines 58-64). Therefore, the efficiency of the Woollenweber et al. device is not improved by utilizing a cross-section of the flow channel widening in the circumferential direction of the housing and the use of such a flow channel would not have protected the mechanical degradations caused by the excess of the engine temperature, as taught by Prevond et al. Accordingly, Woollenweber et al. teaches a compressor having radial and axial compressed air

passageways that do not have a cross-section that widens in the circumferential direction. “

The examiner respectfully disagrees, because

First of all, Figure 1 of Woollenweber et al., identified as "Prior Art," illustrates a cross-section that widens in the circumferential direction, similar to that depicted by Prevond et al. However, the position and the function of the Woollenweber widening cross-section are totally different. The Woollenweber widening cross-section does not cover/is not surround the housing part for mounting/integrating the electric components (emphasis added).

Secondly, Column 1, lines 58-64 of the Woollenweber discloses the deficiency of the prior/old invention being remedied by bleeding a portion of the compressed air from the compressor to flow through the motor housing for cooling the motor windings, which is disclosed in the US Patent Application having serial No. 08/926,881 or US Patent Number 6,102,672 (See Figure 3 of Patent Number 6,102,672).

Thirdly, the substitution of the Woollenweber flow channel by the Prevond channel having a spiral shaped and featuring a cross-section widening in the circumferential direction of the housing yields to predictable results of cooling down the motor housing by using a portion of the compressed air to feed/bleed into the motor. The temperature of the flow in the widener cross-section will be lowered than the temperature of the flow just coming out of the compressor wheel, and the temperature/heat generating by the

motor. Therefore, the flow in the widener cross-section will efficiently absorb heat generating by the motor,

Finally, the combination of Woollenweber and Prevond will improve the efficiency of the Woollenweber device, since the combination would have protected the mechanical degradations caused by the excess of the temperature/heat.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (571) 272-4867. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thai-Ba Trieu/

TTB
February 9, 2008

Thai-Ba Trieu
Primary Examiner
Art Unit 3748